Dec. 21, 1948. E. J. ZELT 2,457,023

ENCASING ASSEMBLY

Filed June 11, 1948

Fig. 1.

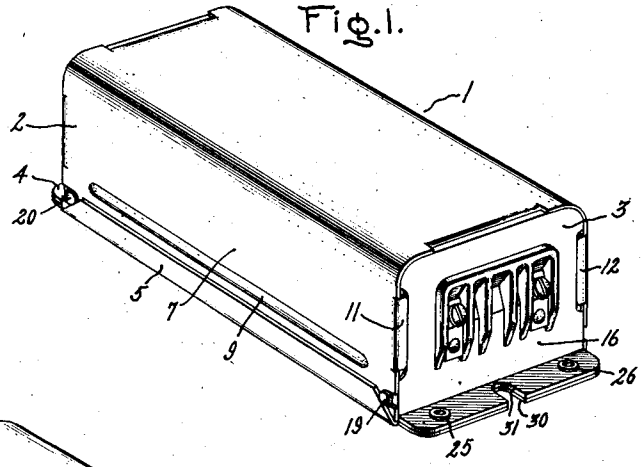


Fig. 2.

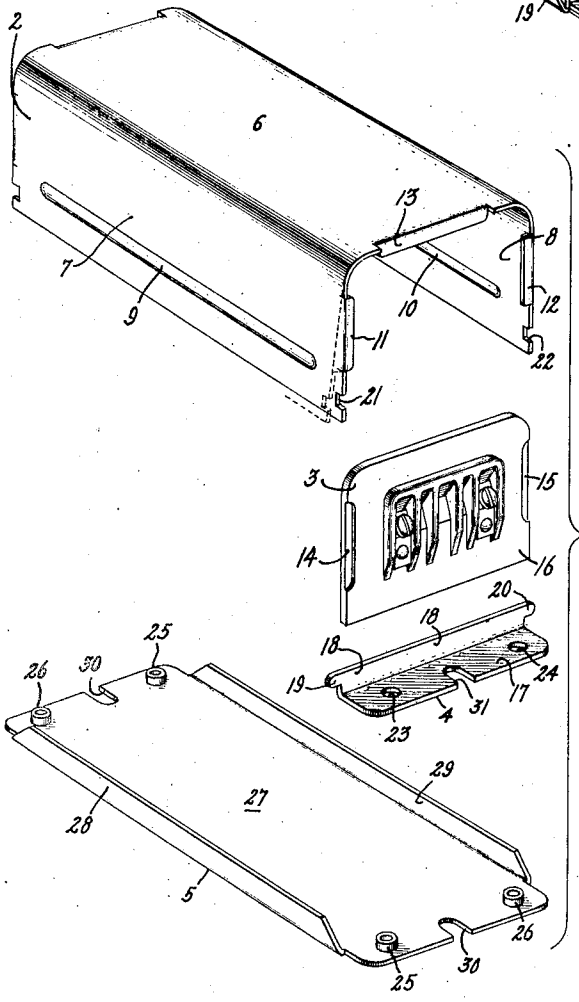


Fig. 3.

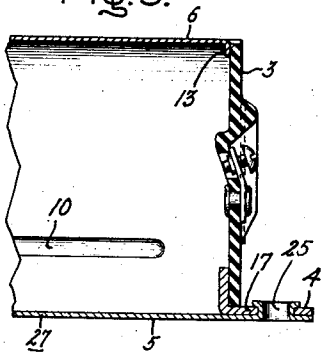
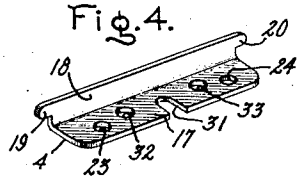


Fig. 4.



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ENCASING ASSEMBLY

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3 Claims. (Cl. 174—50)

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This invention relates to encasing assemblies and more particularly to an encasing assembly containing and used for mounting electrical apparatus.

When electric apparatus is encased within a housing or cover it is very often necessary to use a terminal board to bring the external electric leads within the electrical apparatus. This terminal board may be mounted on the casing structure, and if this is done some means for fastening the terminal board to the case is necessary.

It is an object of this invention to provide a new, simple and economical encasing assembly construction containing and used for mounting electrical apparatus.

It is another object of this invention to provide such a construction which permits ease in assembling and provides for the positive and firm positioning of an electric terminal board as well as the remaining parts of the encasing assembly.

The invention will be better understood from the following description taken in connection with the accompanying drawing and its scope will be pointed out in the appended claims.

In the drawing Fig. 1 is a perspective view of a particular embodiment of the invention as applied to the construction of a fluorescent lamp ballast encasing assembly; Fig. 2 is an exploded view of the encasing assembly means shown in Fig. 1; Fig. 3 is a cross sectional view of the particular application of this invention shown in Fig. 1; Fig. 4 is a perspective view of an alternative construction of a mounting bracket incorporated in this invention.

Referring now to the drawing, there is shown in Fig. 1, by way of example, a fluorescent lamp ballast encasing structure 1 comprised of an outer case 2, a terminal board 3, a mounting bracket or foot 4, and a base plate 5. A fluorescent lamp ballast (not shown in the drawing) of any suitable construction may be mounted within the encasing structure 1, and it may be electrically connected to an external circuit by the use of the terminal board 3. An insulating material (not shown) may be placed within the encasing structure 1.

In the particular application of the invention shown in Figs. 1 and 2 the outer core 2 is formed from sheet metal and may be bent or stamped into a substantially U-shaped channel having a main body 6 and sides 7 and 8 extending approximately perpendicularly from the main body 6. Pressed in the sides 7 and 8 of the outer case 2 may be dimples or grooves 9 and 10 which serve to provide a more rigid case 2 structure. At least one end of the outer case 2 may be prepared in accordance with this invention to provide a simple clamping arrangement to hold the terminal board 3 rigidly in position. The other end of the outer case 2 may be closed by any desired means and

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in the illustrated example, an arrangement similar to the one used for clamping the terminal board 3 is employed. For simplicity, in explaining the invention, consider only the terminal board 3 end. When the outer case 2 is formed, integral extensions 11, 12 and 13 are also stamped in, respectively, the sides 7 and 8 and the main body 6. These extensions 11, 12 and 13 are for the purpose of positively positioning and securely holding the terminal board 3 in place. It may be seen in Fig. 3 that the extension 13 of the main body 6 is a projection which, when the terminal board is properly positioned, extends vertically downward and rests against the inner side of the terminal board 3. The terminal board 3, which may be prepared from a non-conductive material, is formed in a substantially rectangular shape to correspond with inner dimensions of the case 2, and may have grooves 14 and 15 cut in its main body 16 which cooperate with the integral extensions 11 and 12 of the sides 7 and 8. Thus when the terminal board 3 is placed in position the extension 13 prevents it from falling into the interior of the outer case 2, and the extensions 11 and 12 which fit into the corresponding grooves 14 and 15 prevent the terminal board 3 from falling outward.

To assure the rigid positioning of the terminal board 3 and to provide a means for mounting the baseplate 5, a mounting bracket or foot 4 is employed. The mounting bracket 4 may be formed of a thin piece of sheet metal having a body 17 and a substantially perpendicular turned up edge 18 which has two extensions or wings 19 and 20 projecting from it. After the terminal board 3 has been properly positioned the sides 7 and 8 of the outer case 2 may be separated to allow the mounting bracket 4 to be placed with its edge 18 resting against the inner surface of the terminal board 3 and its extensions 19 and 20 resting in the cooperating notches 21 and 22, punched in the sides 7 and 8 of the outer case 2. The extensions 19 and 20 of the edge 18 may then be bent backward so that they rest on the surface of the arms 7 and 8 locking the terminal board 3 in position. The eyelets 23 and 24 in the body 17 of the mounting bracket 4 correspond with the rivets 25 and 26 which may be formed in the main body 27 of the base plate 5. The base plate 5 may be constructed of sheet metal and has, as well as the main body 27, two low sides 28 and 29 which run substantially the length of the main body 27 and may be perpendicular to it. After the fluorescent lamp ballast has been placed in position within the outer case 2, the terminal board 3 has been securely fixed in place by the mounting bracket 4 and the extensions 11, 12 and 13 of the outer case 2, and insulating material has been placed within the outer case 2, the base plate 5 is placed in position and the unit

is effectively sealed so as to prevent any leakage of the insulating compound surrounding the fluorescent lamp ballast. This is done by passing the rivets 25 and 26 of the base plate 5 through the eyelets 23 and 24 of the mounting bracket 4 and then peening the edges of the rivets 25 and 26 as shown in Fig. 3 so as to fasten the base plate 5 to the mounting bracket 4. The sides 28 and 29 are cut, at one end, on a diagonal so as not to interfere with the projections 19 and 20 of the edge 18. Both the base plate 5 and the mounting bracket 4 have corresponding slots or grooves 30 and 31 which permit the case unit 1 containing the fluorescent lamp ballast to be mounted on a channel or frame by the use of bolts and nuts or by the use of similar means.

In Fig. 4 an alternative construction of the mounting bracket 4 is shown which has punched in the body 17, as well as the eyelets 23 and 24 which are used for fastening the base plate 5 to the mounting bracket 4, the holes 32 and 33 through which may pass leads which are fastened (not shown in the drawing) to the terminal board 3. When this alternative construction of the mounting bracket 4 is used openings corresponding to the holes 32 and 33 must be present in the base plate 5.

It can be seen that a more economical case 1 construction results from the utilization of this invention since the metallic end pieces which are present in the usual case construction are eliminated. Another advantage of the case 1 construction disclosed in this invention is that the sides 7 and 8 and the main body 6 of the outer case 2, as well as the side 18 of the mounting bracket 4, over-lap the edges of the terminal board 3 thus providing an effective seal against leakage of the insulating compound contained within the outer case 2.

While there has been shown and described particular embodiments of this invention it will be obvious to those skilled in the art that various changes and modifications can be made therein without departing from the invention and, therefore, it is aimed in the appended claims to cover all such changes and modifications as fall within the true spirit and scope of the invention.

What I claim as new and desire to secure by Letters Patent of the United States is:

1. An encasing assembly comprising a hollow casing member having at least one open end and an open side, said casing member having inwardly projecting extensions from said open end, at least two of said extensions lying in a common plane different from that of the other of said extensions, said casing member having at least two notches originating at said open end, an end member for closing said open end, said end member having a shape similar to that of the interior outline of said casing member and fitting therein so as to fill substantially the volume described by said casing member and said planes of said extensions, a bracket member having a body and a turned up edge extending therefrom, said bracket member being disposed so that said edge is in contact with the interior surface of said end member and cooperates with said extensions of said casing member for securing said end member in position, said edge having extensions which cooperate with said notches of said casing member for securing said bracket member and said end member to said casing member, a baseplate member communicating with said ends of said casing member and closing said open side, and means for securing said baseplate to said bracket.

2. An encasing assembly comprising a hollow casing member having at least one open end and an open side, said casing member having inwardly projecting extensions from said open end, at least two of said extensions lying in a common plane different from that of the other of said extensions, said casing member having at least two notches originating at said open end, a terminal board having a shape similar to that of the interior outline of said casing member and fitting therein so as to fill substantially the volume described by said casing member and said planes of said extensions, a bracket member having a body and a turned up edge extending therefrom, said bracket member being disposed such that said edge is in contact with the interior surface of said terminal board and cooperates with said extensions of said casing member for securing said terminal board in position, said edge having extensions which cooperate with said notches of said casing member for securing said bracket member and said terminal board to said casing member, said body having at least two holes, a baseplate member communicating with said ends of said casing member and closing said open side, and said baseplate member having at least two rivets formed integrally with said baseplate member which cooperate with said corresponding holes in said bracket member for securing said baseplate member to said bracket member.

3. An encasing assembly comprising a hollow casing member having a substantially channel shape, said hollow casing member having a main body and two parallel sides extending therefrom, said hollow casing member having at least one open end and an opening opposite said main body, said hollow casing member having at least three inwardly projecting extensions from said open end, each of said parallel sides having at least one of said extensions and said last mentioned extensions lying in the same plane, said main body having at least one extension lying in a plane different from that of said side extensions, said casing member having at least one notch in each of said sides originating at said open end, a terminal board having a shape similar to that of the interior outline of said casing member and fitting therein so as to fill substantially the volume described by said casing member and said planes of said extensions, said terminal board having grooves in its exterior surface which cooperate with said side extensions, said main body extension contacting the interior surface of said terminal board, a bracket member having a body and a turned up edge extending therefrom, said bracket member being disposed such that said edge is in contact with the interior surface of said terminal board and cooperates with said extensions of said casing member for securing said terminal board in position, said edge lying in the same plane as said main body extension, said edge having extensions which cooperate with said notches of said sides of said casing member for securing said bracket member and said terminal board to said casing member, said body having at least two holes, a baseplate member communicating with said ends of said casing member and closing the corresponding opening, and said baseplate member having at least two rivets formed integrally with said baseplate member which cooperate with corresponding holes in said bracket member for securing said baseplate member to said bracket member.

ELMER J. ZELT.

No references cited.